REMARKS

This amendment is submitted in response to the Office Action dated December 14, 2004. Applicant has amended the claims to clarify key features of the invention and overcome the claim objections and rejections. No new matter has been added, and the amendments place the claims in better condition for allowance. Applicant respectfully requests entry of the amendments to the claims. The discussion/arguments provided below reference the claims in their amended form.

CLAIMS REJECTIONS UNDER 35 U.S.C. § 112

In the present Office Action, Claims 2, 9 and 16 are rejected under 35 U.S.C. § 112, second paragraph. Specifically, Examiner objects to the use of the term lightweight to describe the probes. Applicant clearly defines the term "lightweight" within the specification at page 8, lines 16-21, which states:

> *Probes ...are "lightweight" in that the burden on the system being probed is the minimal required use of resources necessary to obtain information regarding system performance; aggregating the information obtained and command and control are performed outside the system contain the probes.*

Given the clear definition given the term "lightweight" within the specification and the requirement that claims elements be read in light of the specification, Applicant's use of that term to describe the probes (at each level of each server) is not 112 indefinite. The 112 rejection is therefore not valid and Applicant respectfully requests removal of the § 112 rejection.

CLAIMS REJECTIONS UNDER 35 U.S.C. § 103

In the present Office Action, Claims 1-3, 6-11, 13-17 and 20-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Gilbert, et al.* (U.S. Patent No. 5,666,534) in view of *de la Salle* (U.S. Patent No. 5,878,402). The combination of *Gilbert* and *de la Salle* does not render Applicant's claimed invention obvious because that combination fails to suggest to one skilled in the art several key features recited by Applicant's claims.

Non-obvious Claim Elements

Among the features of Applicant's independent claims that are not suggested by the combination of references are the following (bolded for emphasis):

(1) "receiving management information from **lightweight probes located at each** of a plurality of **servers** within the cluster, wherein each server includes **a plurality of defined levels**, each level having an associated individual probe, specific to **gathering** of particular management **information from that level** of that server;"

(2) "**aggregating**, at a designated management server, ... the **management information received from similar levels** across the plurality of servers ... into **a single representation of the similar levels** rather than individual representations of each level of each of the plurality of servers, wherein ... single server that provides centralized management for all of the plurality of servers ...;" and

(3) "**combining** each of the single representation of the **aggregate levels** of management information to form **a single management image** of the cluster at the designated management server" (Claim 1; *emphases added*).

Additional features provided by dependent claims that are not suggested by the combination of references include:

(4) "wherein ... receiving of management information ... comprises: receiving information from ... **each** of the plurality of **levels within every server** including an **application server level, an operating system level,** a network level, and a hardware level" (Claim 2; *emphasis added*);

(5) "generating an **extensible markup language data stream** containing the single image of the cluster; and transmitting the data stream ..." (Claim 6 and 22; *emphasis added*); and

(6) "generating commands ...; **dynamically dividing the commands** based upon a plurality of **levels** ...; dynamically subdividing ...; and **automatically transmitting each subdivided commands to respective probes at a corresponding level** ... to which the command is directed;" (Claim 7 and 23; *emphasis added*).

Gilbert

Applicant hereby incorporates by reference the arguments proffered in Amendment A, which arguments address the numerous deficiencies in *Gilbert*. In summary, those arguments stated that *Gilbert* generally provides "a remote service facility (RSF) unit that is integrated into the operating system of the host system ...," (*emphasis added*) and "which utilizes a standard generic menu interface system (GMIS) unit through which a user can enter different types of commands ... for configuring how the different independently controllable components of the RSF unit will operate...in performing remote support functions" (Abstract, and Summary; *see also* col. 2, line 40-43, describing management customization of the remote support system to meet user requirements for controlling how remote support is to be performed on a host system).

Further, the cited sections of *Gilbert* indicate that *Gilbert* primarily teaches a local, internalized/integrated component utilized to control access to remote support when an "overthreshold condition occurs" (*see* col. 3, lines 10-18). Col. 4, lines 39-50 of *Gilbert* describes localized functionality and response mechanisms to over-threshold conditions. Lines 40-51 describe a callout action to a response center, and providing "a comprehensive list of response center phone numbers to be tried in sequence until a successful connection is made." Clearly, the response center being referenced here is not synonymous to a centralized management function at which management information is received from multiple servers across the cluster via probes associated within levels of each server and/or at which the aggregation and combining of management information takes placed. Rather, as illustrated by Figure 1, the call out refers to a physical (PSTN) connected telephone call via a modem requesting support (see col. 4, lines 45-65).

Gilbert, therefore, focuses primarily on the single host system managing its own operations, and *Gilbert* is completely devoid of any reference to (or suggestion of) use of localized probes at various levels on remote servers. In fact *Gilbert* is devoid of any reference to a centralized management function for a cluster of servers with multiple levels that are individually probed for management information.

De la Salle

De la Salle generally describes a network management system that includes "**probe computers (42)** situated along selected ones of the LANs (14) or 'capturing' data packets(22) and building probe objects (52) corresponding thereto" (Abstract).

Claim Element 1 : Lightweight probes at multiple levels of each server

Gilbert does not discuss a probe or use of a lightweight probe, as that term is used in Applicant's claims. Examiner summarizes that in order for *Gilbert* "[t]o properly perform such tasks, means by which to obtain data ... (such as probes) must exist within any network monitoring design." Examiner however provides no support for this statement and in fact mischaracterizes what is provided by *Gilbert* in order to reach that conclusion. For example, col. 2, lines 49-59 of *Gilbert* does not teach "a design for monitoring machines within a network." Rather, that section of *Gilbert* describes the RSF unit with a GMIS unit (interface) through which "a user can enter different types of commands ...for configuring how the different **independently controllable components of the RSF unit** will operate in performing remote support functions" (*emphasis added*). *Gilbert's* RSF unit is not synonymous nor suggestive of a network management scheme for monitoring and/or managing multiple servers each having multiple levels with lightweight probes provided at each level for level-specific information-gathering and dispersing of command and control functions. Notably, Examiner later admits that "Gilbert's disclosure does not discuss the use of multiple probes, whose information is compiled."

Examiner then relies on *de la Salle* to support the rejection of Applicant's recitation of lightweight probes and associated functionality within the claims. However, *de la Salle* does not teach or suggest the lightweight probes at multiple levels within each server as provided by Applicant's claims. Rather, *de la Salle* describes a "probe computer," which is a complete computer system that is set up to monitor a geographical area of a network.

As clearly shown by the figures (e.g., Fig. 1) the probe computers are actual computer systems separate from the workstations and other devices on the network that generate the data packets etc. being analyzed. The cited sections, namely col. 3, line 41-67 and col 4. line 12-16

provide a description of the probe units being placed to gather geographically distinct information from sample data packets ... later used to build probe objects that are sent to an "analysis assembly." The information is organized "in a usable format to aid a network manager in managing and tuning the network array."

The probe objects are then sent to a database computer and manipulated "with a data base builder routine into database objects (100), which are stored in a database (99)" (id.). The database is analyzed to display information related to the operational parameters of the computer network array utilized by network managers. Thus, nowhere within *de la Salle* is there any reference to or suggestion of the lightweight probe at various levels of each server and other features rejected by Examiner based on a reliance on *de la Salle*.

The term lightweight is defined above in the rebuttal of the § 112 rejection. Applicant further describes the probes and their specific use at page 8, lines 12-27, which states that:

> *Probes ...are utilized by both the information-gathering and command and control mechanisms. Although uniform across systems of the same type at each level, the specific implementation details of probes ... will vary greatly from level to level and from one system type to another.*

Additionally, page 9, lines 2-9 further states:

> *each probe ... only gathers information regarding the particular system on which the respective probe is located, and only for the specific level **108a-108d** on which the respective probe was designed to operate. The task of aggregating collected information is performed on the meta server **106**.*

Thus, as utilized within Applicant's claims, the term "probes" and specifically "lightweight probes" provide a different construct than the "probe computer" described in *de la Salle*. This use of lightweight probes is therefore not suggested by either reference, and Applicant's independent claims are therefore allowable.

Claim Elements 1 & 4: Plurality of levels at each server

Examiner provides several conclusory arguments on page 4 and throughout the rest of the Office Action to support the rejection of the multiple levels being monitored within a server by the lightweight probes. For example, one section of *Gilbert* referenced, namely col. 9, lines 65-67 expressly states: "[t]he class filed indicates whether the error is a hardware (H) or software (S) error ... provides a description of the error condition." Applicant respectfully request Examiner provide clarification as to how this statement teaches or suggests use of an OS level and application server level probes (etc.) for monitoring each of the listed levels within each server.

Examiner provides a statement of what Examiner believes is inherent for a network monitoring design to function, including OS level monitoring, etc. However, Examiner later "contradicts" this statement by relying on *de la Salle*, which provides high level network monitoring without any suggestion of detection OS level information for each remote device. *De la Salle* is described above as providing a network management system that includes probe computers geographically situated on a LAN for capturing data packets and building probe objects from the captured data packets. Nothing in the description of *de la Salle* suggests an OS level monitoring or an application server level monitoring, etc.

Thus, the combination of references does not teach or suggest monitoring each server at multiple levels via probes placed within each level.

Claim Element 3 : Compilation of levels of data into single (mutli-level) image.

Examiner states that col. 5, lines 1-5 of *Gilbert* teaches means to monitor all actions by remote devices. Col. 5, lines 1-12 teaches enabling an administrator of the host system to view all of the action being taken by a remote user and enabling a hot key capability by which the administrator can immediately terminate any current session by the remote user. While Examiner is correct about monitoring actions by remote devices, this teaching exists solely in the context of monitoring a remote user's access to a server (host system) from a client system connected thereto. This teaching is not synonymous with the receiving, aggregating and combining features recited within the claims. One skilled in the art would appreciate the

inherent differences between monitoring remote access to a system and actually receiving management information form a plurality of remote systems that are being managed from a centralized management server.

Also, the reference at col. 9, line 30-31 of a single record is NOT equivalent to the claimed image, as stated by Examiner, because that section states: "it contains one record for each source (log file) being monitored by RSF unit." This clearly indicates that, assuming *arguendo*, that *Gilbert* did teach a network system with probes (which *Gilbert* clearly does not), then *Gilbert's* system would result in as many records as there are servers rather than a single record representing the compilation of data from all the servers across the various levels.

Claim Element 5 : Use of XML

Examiner summarily opines that XML would have been a logical extension of *Gilbert's* system. Examiner's statement, at numbered paragraph 7, that "XML is a common markup language ... it is acceptable within Gilbert's design" is inherently flawed. At the time Gilbert's patent issued (1997; filed in 1993), XML and the specific functionality associated therewith was at best a fledgling language still being developed and not utilized within the art. Gilbert, as a localized system designed in 1993 or earlier relies on PSTN (public switch telephone network) communication to conduct any remote calls and thus would not have any application for utilizing a network communication language such as HTML and particularly not XML. See attached article taken from internet page:

"http://www.nytimes.com/library/tech/00/06/biztech/technology/07mark.html."

Even if *Gilbert* contemplated some use of a higher level network communication language, the standard for IP-based network communication in 1997 was HTML (utilized by those skilled in the art prior to Applicant's date of invention). XML as a language evolved in the earlier parts of 2000 to replace HTML. It appears that Examiner summarily dismisses the use of XML within Applicant's claimed invention without providing any support or suggestion within either reference of the use of anything other than standard network protocols known at the time of the respective patents. Such a conclusory handling of Applicant's use of XML provides little guidance for rebutting the invalidity of the 103 rejection of this element of Applicant's claims.

Claim Element 6 : Command Dissemination via Sub-division into server levels

Examiner does not address the actual subdividing of a centralized command issued from the management server to provide control at specific ones of the various levels across various servers. Notably, this feature of Applicant's invention provides a different functional use of the probes as disseminators of control/management commands, which are generated based on analysis of the compiled data from each probe at each of the various levels of each server. Examiner addresses important this feature by stating that "the design allows for a user to use the collected information to manage and tune the network" citing to col. 4, lines 12-16 of *de la Salle*. This however, does not suggest a division and broadcast of control information to various levels within the individual servers using a single command that is then subdivided by levels and then by servers to provide a level-directed control output.

Examiner also summarily dismisses Claims 23, 24, and 25 with a general rejection that does not specifically address the actual elements found within Applicant's claims. However, nothing within either reference (or the combination thereof) suggests a command that is specifically created to respond to the ... and which is then divided up to the individual levels then servers and transmitted to the respective level of the respective servers to effect some change thereto.

103 Conclusion

The above arguments establish that *Gilbert* does not teach the features of Applicant's independent claims. *Gilbert* does not teach a centralized server receiving all management information from various levels of servers within a cluster. *Gilbert* also does not describe or suggest use of a lightweight probe. Gilbert also fails to teach representing the single image as an XML. Given the above reasons, it is clear that the combination of references does not suggest key features of Applicants' invention. One skilled in the art would not find Applicants' invention unpatentable over the combination of references. The above claims are therefore allowable over the combination.

Response to Remarks

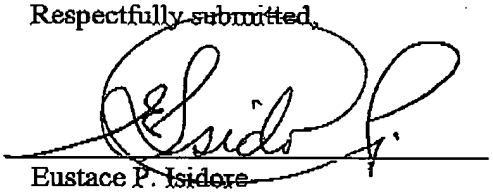
In the remarks section, Examiner states that the use of probes at different levels is nothing new. Yet, Examiner provides no reference to support such an assertion, particularly as the lightweight probes are specific to defined levels within each server. Examiner again relies on the specific probe computers which, as described above, are not lightweight probes within the definition of lightweight probes recited within Applicant's claims. Clearly neither of the two references teach this functional element of Applicant's claims and, absent a showing of such a configuration or teaching within either reference, that conclusion by Examiner can not be supported.

CONCLUSION

Applicant has diligently responded to the Office Action by amending the claims to clarify key features thereof and overcome the rejections. The amendments and supporting arguments overcome the §§ 112 and 103 rejections, and Applicant, therefore, respectfully requests reconsideration of the rejections and issuance of a Notice of Allowance for all claims now pending.

Applicant further respectfully requests the Examiner contact the undersigned attorney of record at 512.343.6116 if such would further or expedite the prosecution of the present Application.

Respectfully submitted,



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